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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ALI, MOHAMMAD	
ART UNIT	**PAPER NUMBER**
2166	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/679,015	SINGHAL ET AL.	
	Examiner	Art Unit	
	Mohammad Ali	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20,36-41,51-70 and 86* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20,36-41,51-70 and 86* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. After further search and a thorough examination of the present application Claims 1-20, 36-41, 51-70, and 86 remains rejected.

Applicants' arguments with respect to claims 1-20, 36-41, 51-70, and 86 have been considered, but they are not deemed to be persuasive.

In the remarks section on pages 14 and 16 applicant's argue that amended claims particularly point out distinctly claim subject matter regarded as invention, whereas in the claims applicant's remove a particular limitations which broadened the claims not clearly point out the subject matter.

Applicant's argue that Hickman does not include the limitations of placing 'a message that indicates objects inserted, updated, or deleted in the transaction in one or more message queues'.

In response to applicant's arguments, the Examiner respectfully submits that in particular, Hickman teaches this limitation as Fragment maps: all fragment maps on bases are **updated** via a special-purpose transaction mechanism. A UD is selected using SmartIPs LoadBalanceUDs method. This UD is sent a fragment map reassignment message indicating the source and destination clusters, and the highest and lowest fragment numbers in the range. This UD chooses a unique transaction ID, and invokes the DAL ReassignFragments method for each base in the source and destination clusters, and cluster 1 (which maintains a complete, correct map), in much the same way as in LevCreateSchema above. The DAL records the change as

uncommitted, using stored procedures. If they all return success, then the UD invokes the commit method on all involved DALs, otherwise the abort method, see col. 27, lines 12-25, Hickman.

Applicant's argue that Hickman does not include the limitation of an 'indexed message that allows access to indicated objects without requiring rescanning other messages in the message queues'.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., indexed message that allows access to indicated objects without requiring rescanning other messages in the message queues) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicants' removed the limitations from the claims by amendment.

Hence, Applicants' arguments do not distinguish over the claimed invention over the prior art of record.

In light of the foregoing arguments, the 102 rejections are hereby sustained.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-20, 36-41, 51-70, and 86 are rejected under 35 U.S.C. 101 because claims does produce useful, concrete and tangible results, see MPEP 2106.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-20, 36-41, 51-70, and 8 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: sending said set of database modifications and a commit command to a second database. The step of updating the second database is missing. Claim 86 recites the limitation "tangibly embodying" in a program. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-20, 36-41, 51-70, and 86 are rejected under 35 U.S.C. 102(e) as being anticipated by Hickman et al. ('Hickman' hereinafter), USP, 6,523,036.

With respect to claim 1,

Hickman teaches a method for performing a transaction on a database (see Fig. 2), the method comprising:

sending a set of database (see col. 25, lines 23-24, Hickman) modifications requested by the transaction to a first database (see col. 25, lines 57-60, Hickman);

placing a message in one or more message queues, said message indicating objects inserted, updated, or deleted in the transaction (see col. 27 lines 12-25, Hickman);

sending a commit (see Fig. 7B, Hickman) command to the first database (see col. 8, lines 1-8, Hickman); and

sending said set of database modifications and a commit command to a second database (see Figs. 12, 13, Hickman).

As to claim 2,

Hickman teaches inserting a record for the transaction into a transaction ID table in the first database (see col. 25, lines 27-37, Hickman).

As to claim 3,

Hickman teaches wherein said sending a set of database modifications and said inserting are performed in the same transaction (see col. 8, lines 41-49, Hickman).

As to claim 4,

Hickman teaches wherein the method is performed by an application server (see col. 8, lines 22-25 and Fig. 13, Hickman).

As to claim 5,

Hickman teaches sending a cache synchronization message to other application servers sharing the same cluster as said application server (see col. 9, lines 63-64, Hickman).

As to claim 6,

Hickman teaches wherein said set of database modifications comprises a set of structure query language (SQL) insert, update, and/or delete commands (see col. 9, lines 15-20, Hickman).

As to claim 7,

Hickman teaches wherein said message contains a serialized representation of objects inserted, updated, or deleted in the transaction (see col. 8, lines 41-49, Hickman).

As to claim 8,

Hickman teaches wherein said message contains a serialized representation of objects inserted, updated, or deleted in the transaction (see col. 8, lines 41-49, Hickman).

As to claim 9,

Hickman teaches wherein said serialized representation further includes said insert of said record (see col. 8, lines 41-49, Hickman).

As to claim 10,

Hickman teaches indexing messages contained in said message queue for rapid access (see col. 27, lines 10-15, Hickman).

As to claim 11,

Hickman teaches receiving said cache synchronization message at another application server (see col. 9, lines 63-64, Hickman);

extracting a transaction ID from said cache synchronization message (see col. 9, lines 63-64, Hickman); and

discarding messages containing said transaction ID from one or more message queues (see col. 28, lines 55-56, Hickman).

As to claim 12,

Hickman teaches periodically deleting old rows from said transaction ID table (see col. 29, lines 1-10, Hickman).

As to claim 13,

Hickman teaches wherein said periodically deleting is performed using a background thread (see col. 28, lines 55-56, Hickman).

As to claim 14,

Hickman teaches wherein said sending said set of database modifications and a commit command to a second database and said sending a cache synchronization message are performed asynchronously on separate threads (see col. 9, lines 63-64, Fig. 7B, Hickman).

As to claim 15,

Hickman teaches detecting a failure of said first database (see col. 8, lines 1-8, Fig. 3, Hickman);

halting completion of the transaction in said first database (see col. 8, lines 1-8, Hickman);

including in said cache synchronization message an indication that said first database is down (see col. 9, lines 53-54, Hickman); and

refraining from performing further actions involving said first database until said first database is restored (see col. 8, lines 1-8, Fig. 10, Hickman).

As to claim 16,

Hickman teaches replaying said database inserts, updates, and/or deletes in said cache synchronization message at a recovery server when said first database is restored (see col. 28, lines 55-56, Hickman).

As to claim 17,

Hickman teaches detecting a failure of said second database (see col. 8, lines 1-8, Fig. 10, Hickman);

including in said cache synchronization message an indication that said second database is down (see col. 9, lines 53-54, Hickman); and

refraining from performing further actions involving said second database until said second database is restored (see col. 8, lines 1-8, Fig. 10, Hickman).

As to claim 18,

Hickman teaches detecting a failure of a first recovery server (see col. 26, lines 20-25, Hickman);

detecting reactivation of said failed first recovery server (see col. 26, lines 20-25, Hickman);

reading a transaction ID out of any queued messages in a message queue corresponding to said first recovery server (see col. 26, lines 1-5, Hickman); and

deleting any message in said message queue that has a transaction I.D matching a transaction ID in a corresponding row of said transaction ID table (see col. 28, lines 55-56, Hickman).

As to claim 19,

Hickman teaches detecting a failure of a message queue (see col. 25, lines 50-55, Hickman);

detecting reactivation of said failed message queue (see col. 25, lines 50-55, Hickman);

deleting any messages in said failed message queue (see col. 28, lines 53-54, Hickman);

sending a message to a recovery server containing a time stamp of a first new message processed by said message queue (see col. 8, lines 1-8, Hickman);

receiving a message from said recovery server indicating that an oldest message still in its queue is not older than said time stamp (see col. 16, lines 30-31, Hickman); and

resuming normal operation upon receipt of said message from said recovery server (see col. 26, lines 20-25, Hickman).

As to claim 20,

Hickman teaches detecting a failure of an application server (see col. 8, lines 1-8, Fig. 13, Hickman);

determining if said failure was detected during a communication with a first database or message queue (see col. 8, lines 1-8, Hickman);

aborting the transaction if said failure was detected during a communication with a first database or message queue (see col. 14, lines 21-35, Hickman);

determining if a message has been in a message queue for a predefined period of time (see col. 28, lines 53-54, Hickman); and

discarding said message if a transaction ID for said message is not contained in a transaction ID table in said first database (see col. 8, lines 1-8, Fig. 13, Hickman); and

replaying said set of database modifications to said second database if a transaction ID for said message is contained in said transaction ID table in said first database but not in a transaction ID table in said second database (see col. 2, lines 60-65, Fig. 13, Hickman).

Claims 36-41, 51-70, and 86 have the same subject matter as of claims 1-20 and essentially rejected for the same reasons as discussed above.

Claim Objections

7. Claims 36 and 51 is objected to because of the following informalities: a memory and processor is required in order to process the software in order to have real world value. Appropriate correction is required.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

9. Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Mohammad Ali whose telephone number is (571) 272-4105. The examiner can normally be reached on Monday-Thursday (7:30 am-6:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mohammad Ali
Primary Examiner
Art Unit 2166

MA
April 13, 2007